

Terrestrial Invertebrates

Yellow-faced bee

Hylaeus kuakea

SPECIES STATUS:

Federal Candidate for Listing
State Recognized as Endemic

GENERAL INFORMATION: *Hylaeus kuakea* is a medium-sized bee endemic to O'ahu. Unlike most of the native *Hylaeus*, the face mark of the male is ivory-colored rather than yellow. It lives in lowland dry to mesic forest, in association with various understory shrubs. It was only discovered in 1997, and little is known of its habits.

DISTRIBUTION: *Hylaeus kuakea* is restricted to the Wai'anae range of O'ahu. There are only three records of the species, each of a single individual: one from Schofield Barracks South Range in 1997, one from Mākaha Valley in 2009, and one from Wai'anae Valley in 2014.

ABUNDANCE: Unknown. *Hylaeus kuakea* is apparently extremely rare, as more than one has never been found at any given site.

LOCATION AND CONDITION OF KEY HABITAT: Mid-elevation dry and mesic forests have declined dramatically, and only a tiny fraction of their original extent currently exists. Much of what remains is invaded by alien ants, which dominate lowland areas. While upper elevation wet habitat remains relatively intact, alien plants invading from below in the aftermath of ungulate disturbance have seriously impacted the habitat favored by *H. kuakea*.

THREATS:

- Habitat loss and degradation. Habitat is threatened by invasive plants, non-native ungulates, development, and fire.
- Competition and predation. Non-native Hymenoptera, including bees, ants (primarily *Anoplolepis gracilipes* and *Pheidole megacephala*), and wasps (*Vespula pensylvanica*), can directly compete with or prey on this species.
- Stochastic events. Events such as droughts are threats to the species.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations and key breeding habitats, but also to establish additional populations and maintain sustainable populations of host plants, thereby reducing the risk of extinction. For *Hylaeus kuakea* specifically, management needs include the following:

- Conduct surveys to determine distribution and abundance.
- Protect remaining habitat from development and ant invasion.
- Establish reintroduced populations where appropriate.

MONITORING: Continue surveys of known populations in order to assess their stability and trends.

RESEARCH PRIORITIES:

- Survey for new populations in both historical and novel sites.
- Evaluate life history and essential habitats to better direct conservation measures, such as determining habitat requirements for nest sites.

References:

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Magnacca, KN. 2007. Conservation status of the endemic bees of Hawaii, *Hylaeus* (*Nesoprotopis*) (Hymenoptera: Colletidae). *Pacific Science* 61(2): 173-190.

Magnacca, KN, and King, CBA. 2013. Assessing the presence and distribution of 23 Hawaiian yellow-faced bee species on lands adjacent to military installations on O'ahu and Hawai'i Island. Technical Report No. 185. Pacific Cooperative Studies Unit, University of Hawai'i, Honolulu, Hawai'i. 39 pp.

U.S. Fish and Wildlife Service. 2011. Endangered and threatened wildlife and plants; 12-month finding on five petitions to list seven species of Hawaiian yellow-faced bees as endangered. *Federal Register* 76:55170-55203.